RTO Membership

Public Information Forums

Alternative Operations Study Recommendation

Jody Sundsted, UGP Power Marketing Manager
Lloyd Linke, UGP Operations Manger

November 19, 20, & 21, 2013

Western AREA POWER ADMINISTRATION

Upper Great Plains Region

Public Information Forums

- November 19, 2013, 8:30 a.m. to no later than 1 p.m. CST
  Holiday Inn Lincoln Downtown
  141 North 9th Street
  Lincoln, Nebraska

- November 20, 2013, 8:30 a.m. to no later than 1 p.m. CST
  Holiday Inn City Centre
  100 West 8th Street
  Sioux Falls, South Dakota

- November 21, 2013, 8:30 a.m. to no later than 1 p.m. CST
  Ramada Plaza Fargo Hotel
  1635 42nd Street South
  Fargo, North Dakota

Western AREA POWER ADMINISTRATION

Recommendation for Western-UGP

- Recommendation to pursue formal negotiations with the Southwest Power Pool, a Regional Transmission Organization, concerning membership.

  – *Federal Register* Notice (FRN) published November 1, 2013 and is the start of the public comment period.

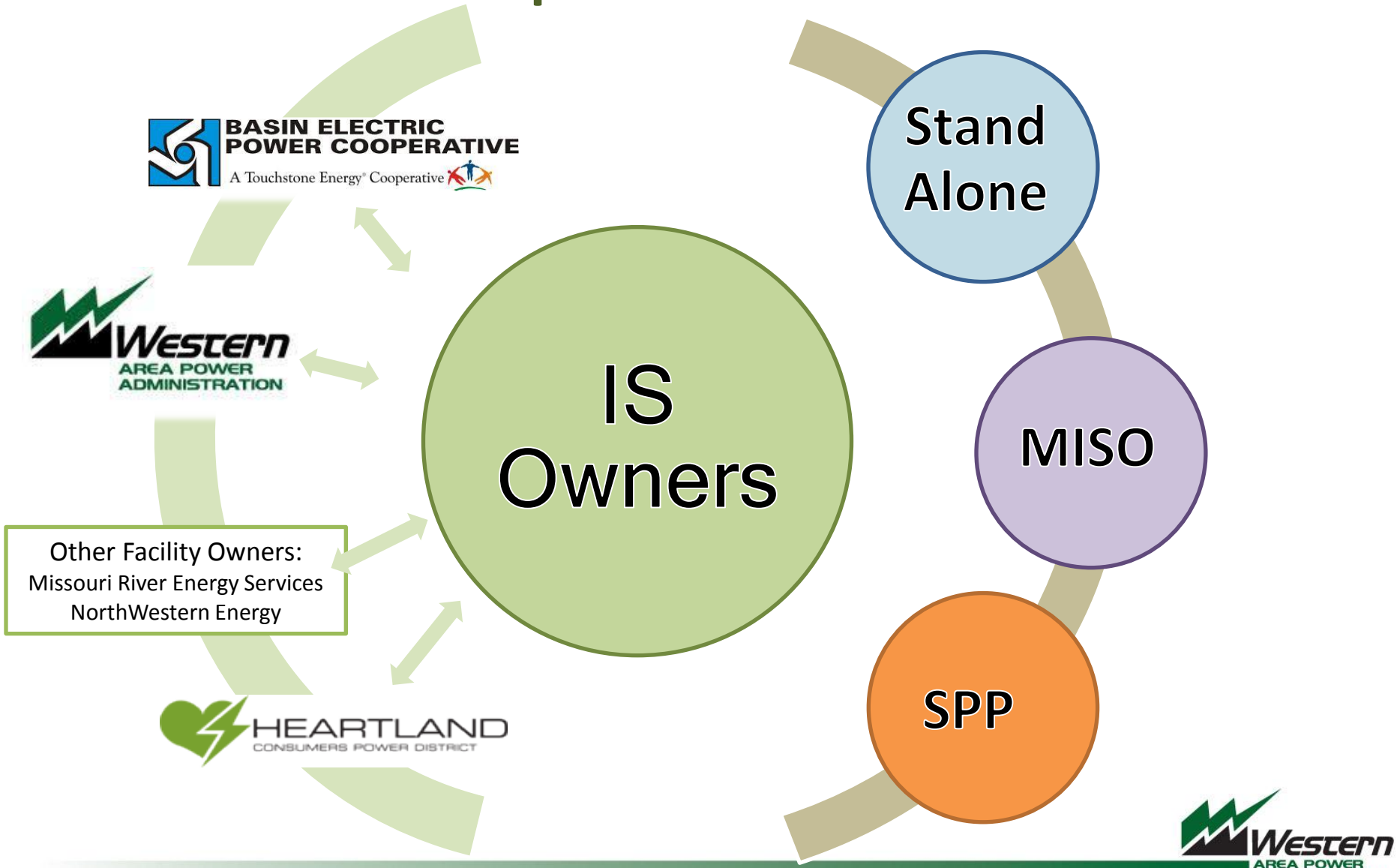
Western AREA POWER ADMINISTRATION

Meeting Agenda

- Overview Integrated System (IS)
- AOS studies
  - Integrated System Business Model
  - Multi-Criteria Decision Analysis
- RTO statutory topics
- UGP RTO considerations
- Where we are now and the next steps

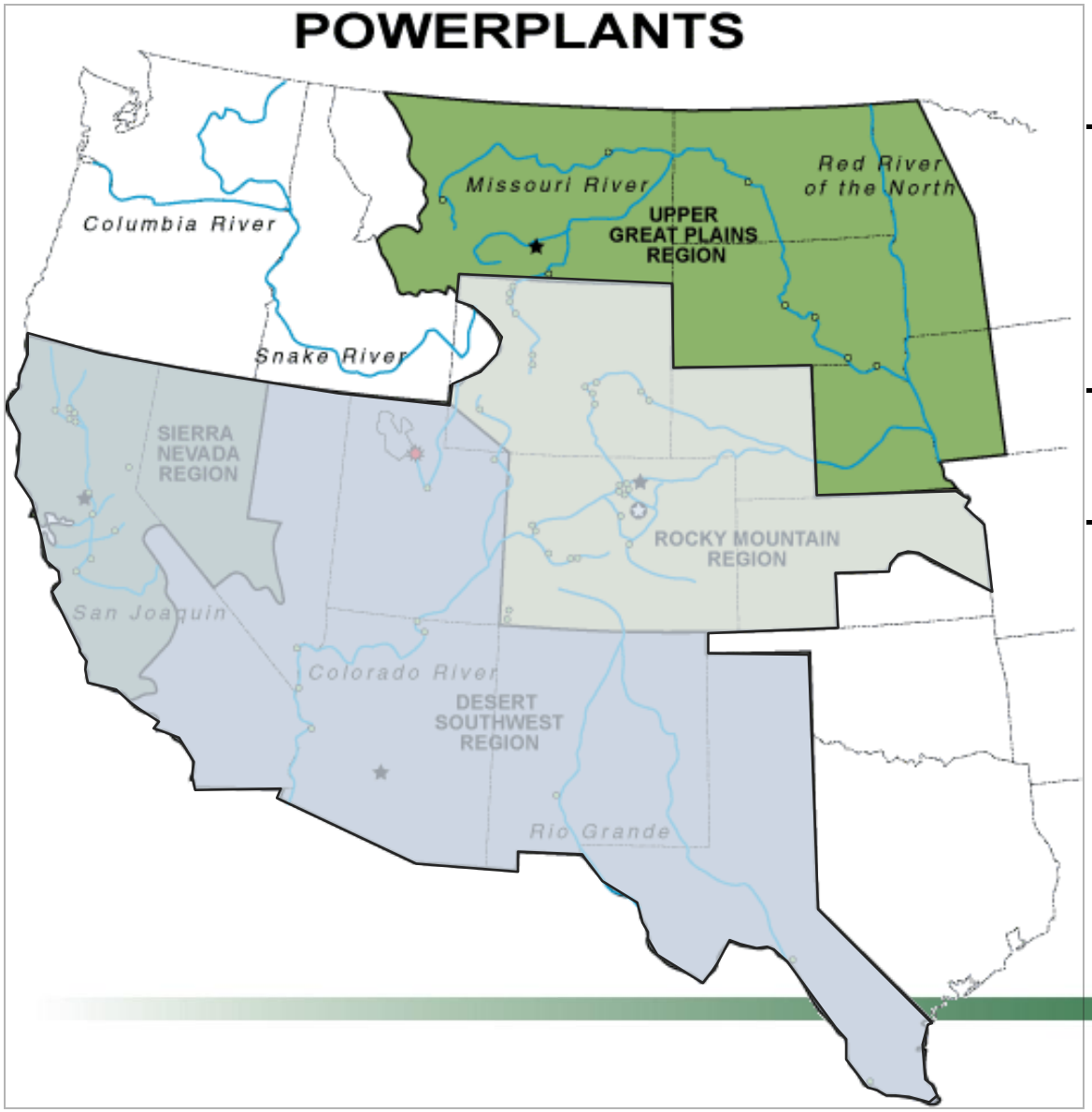
Western AREA POWER ADMINISTRATION

IS Options for Future



Western Area Power Administration

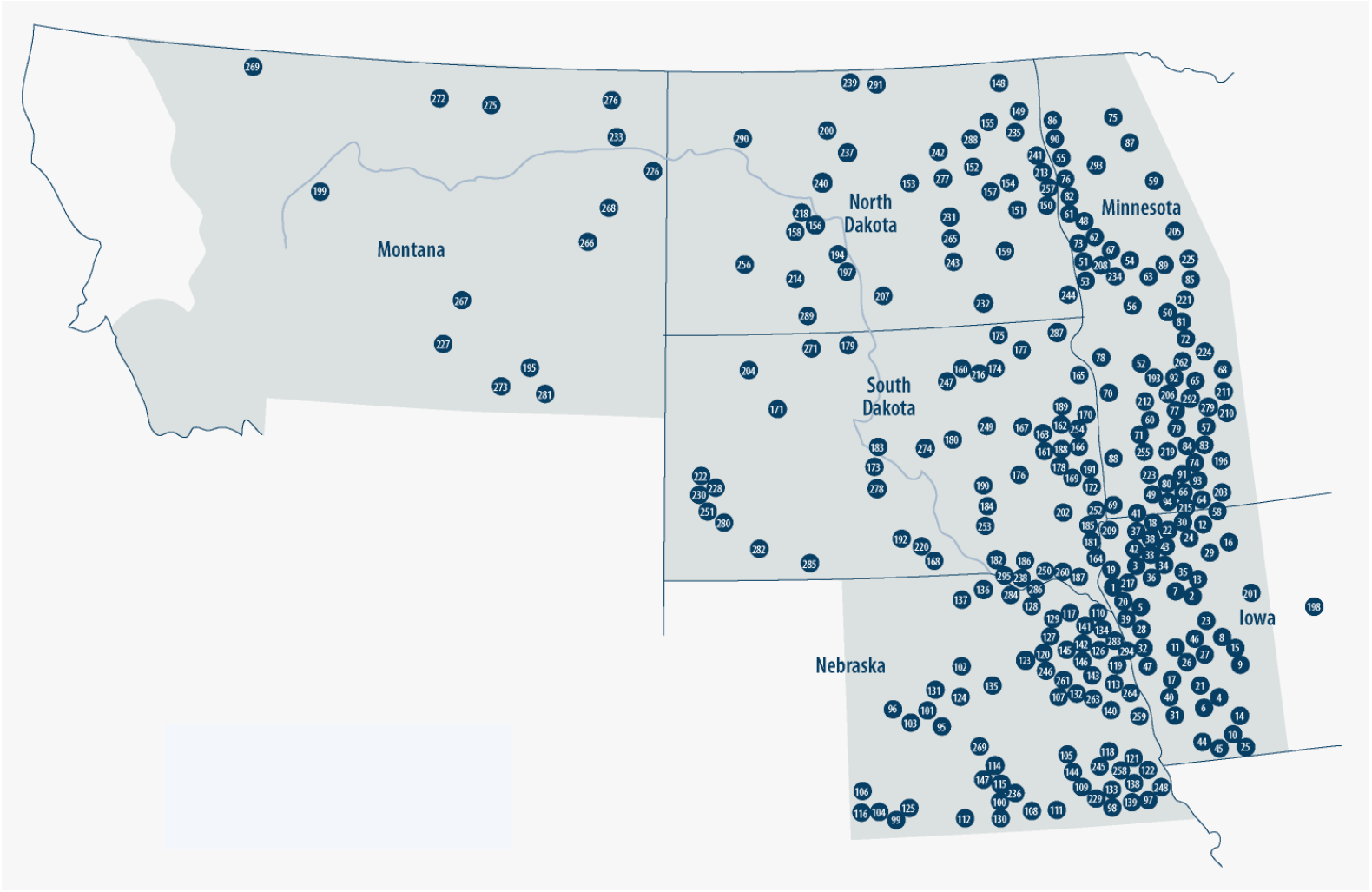
Our Power Comes From



- Hydroelectric energy produced at Federal generating agencies
- Multi-purpose projects
- Variable water availability

Western AREA POWER ADMINISTRATION

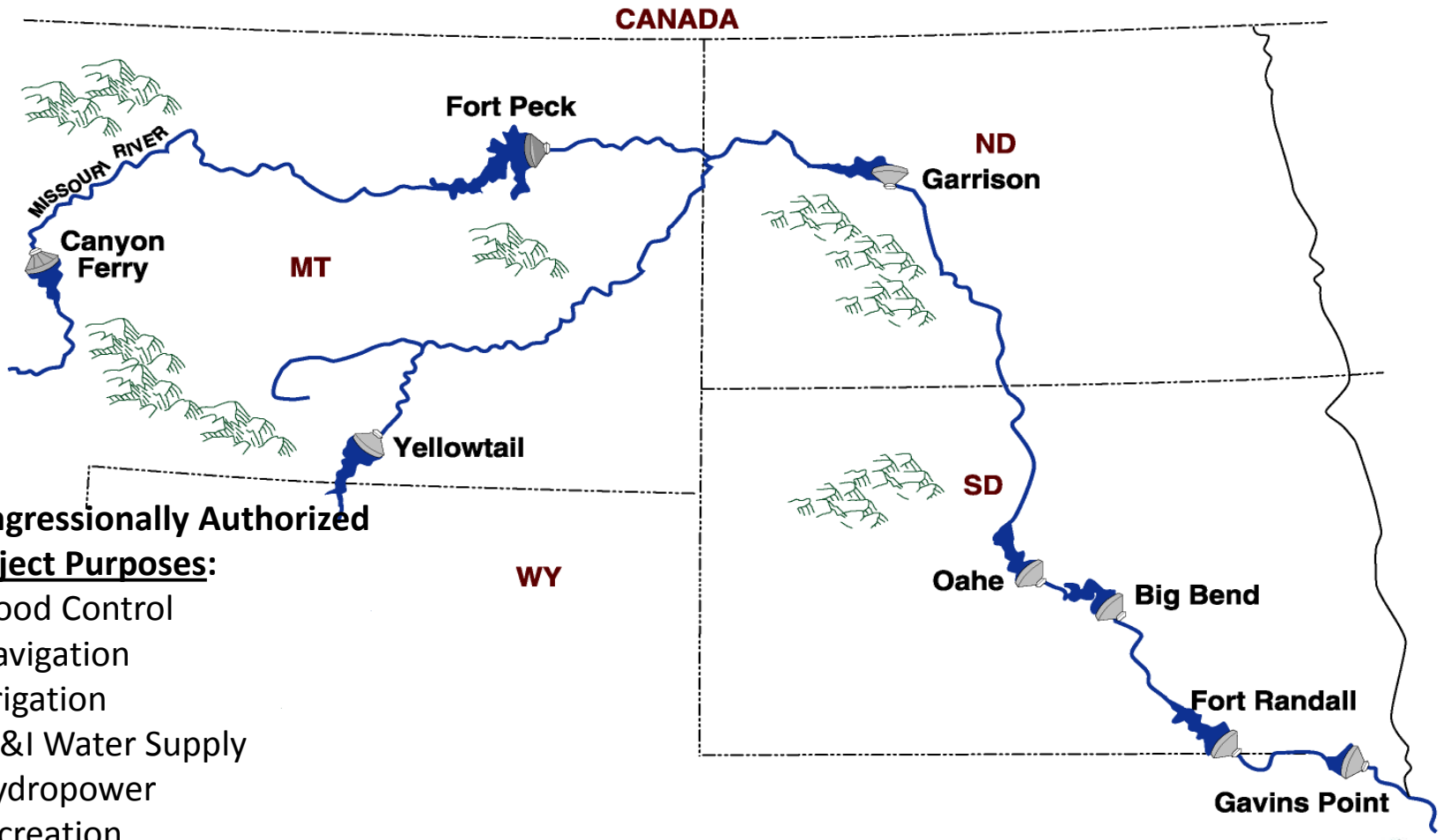
UGP Firm Power Customers



Western AREA POWER ADMINISTRATION

Where We Get The Power

Pick-Sloan Missouri Basin Program-ED

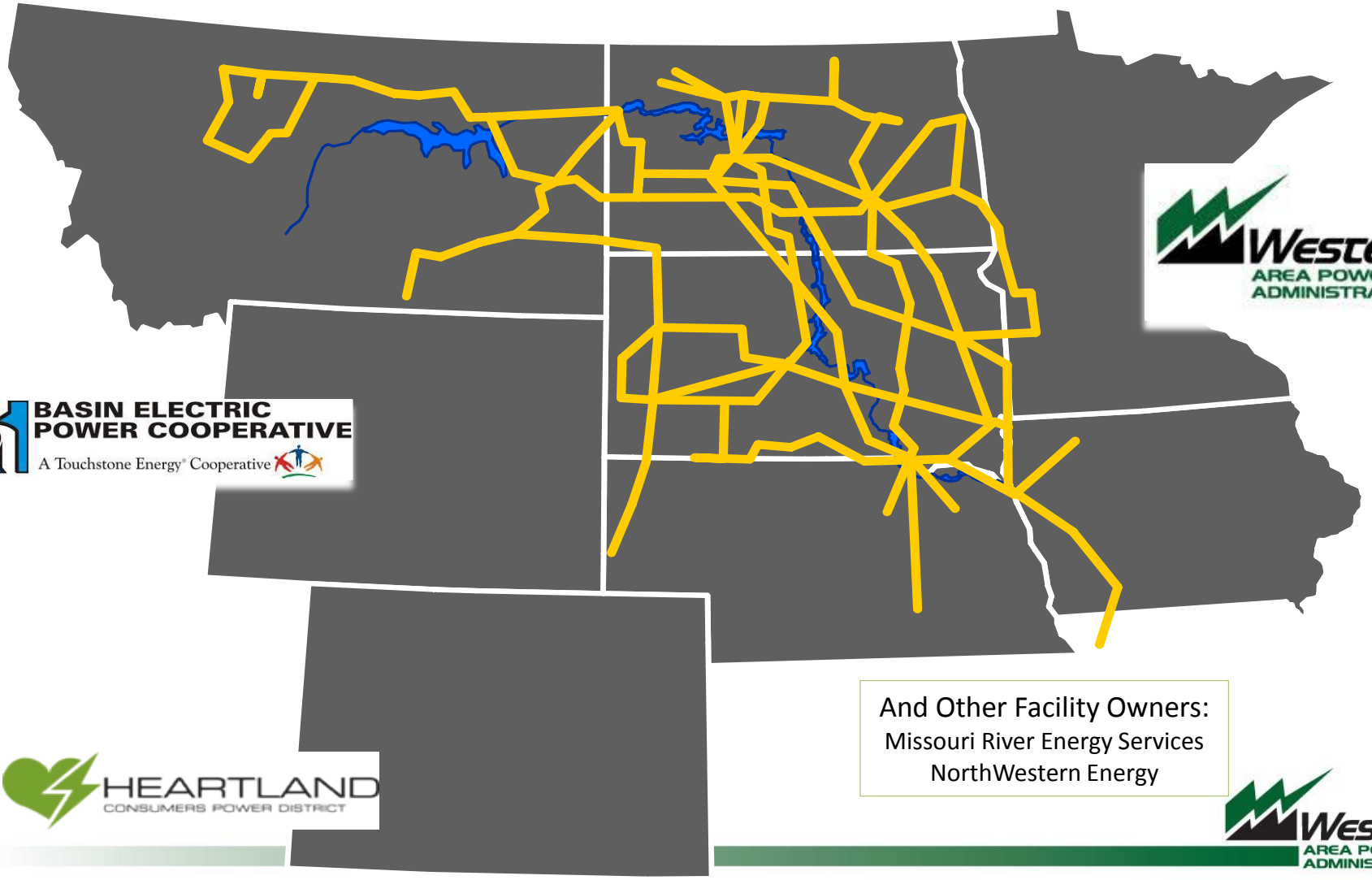


Congressionally Authorized
<u>Project Purposes</u>:

- Flood Control
- Navigation
- Irrigation
- M&I Water Supply
- Hydropower
- Recreation
- Fish & Wildlife (includes endangered species)

Western AREA POWER ADMINISTRATION

Basin / Western / Heartland Integrated System (IS)



BASIN ELECTRIC POWER COOPERATIVE
A Touchstone Energy® Cooperative

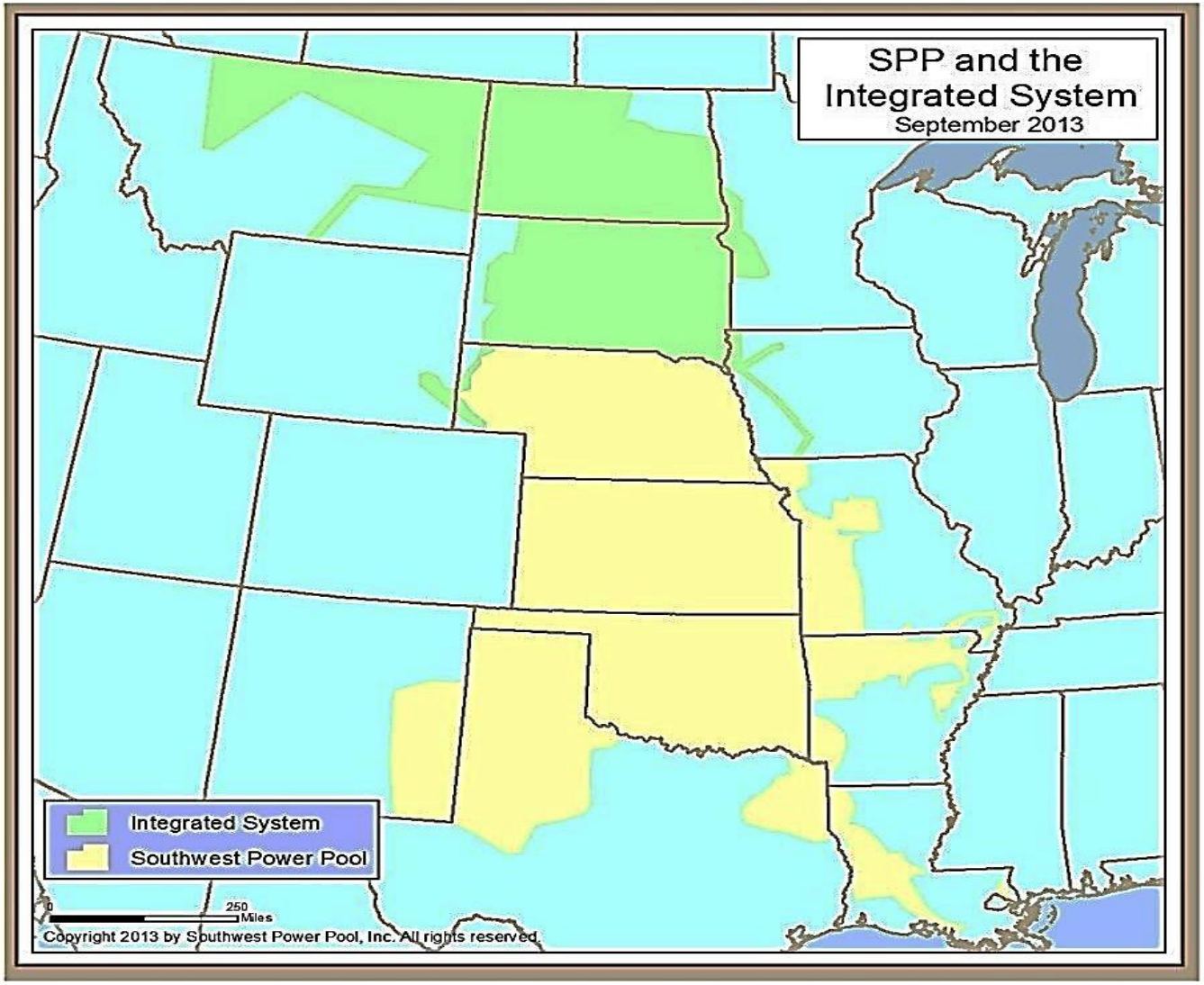
Western AREA POWER ADMINISTRATION

And Other Facility Owners:
Missouri River Energy Services
NorthWestern Energy

HEARTLAND CONSUMERS POWER DISTRICT

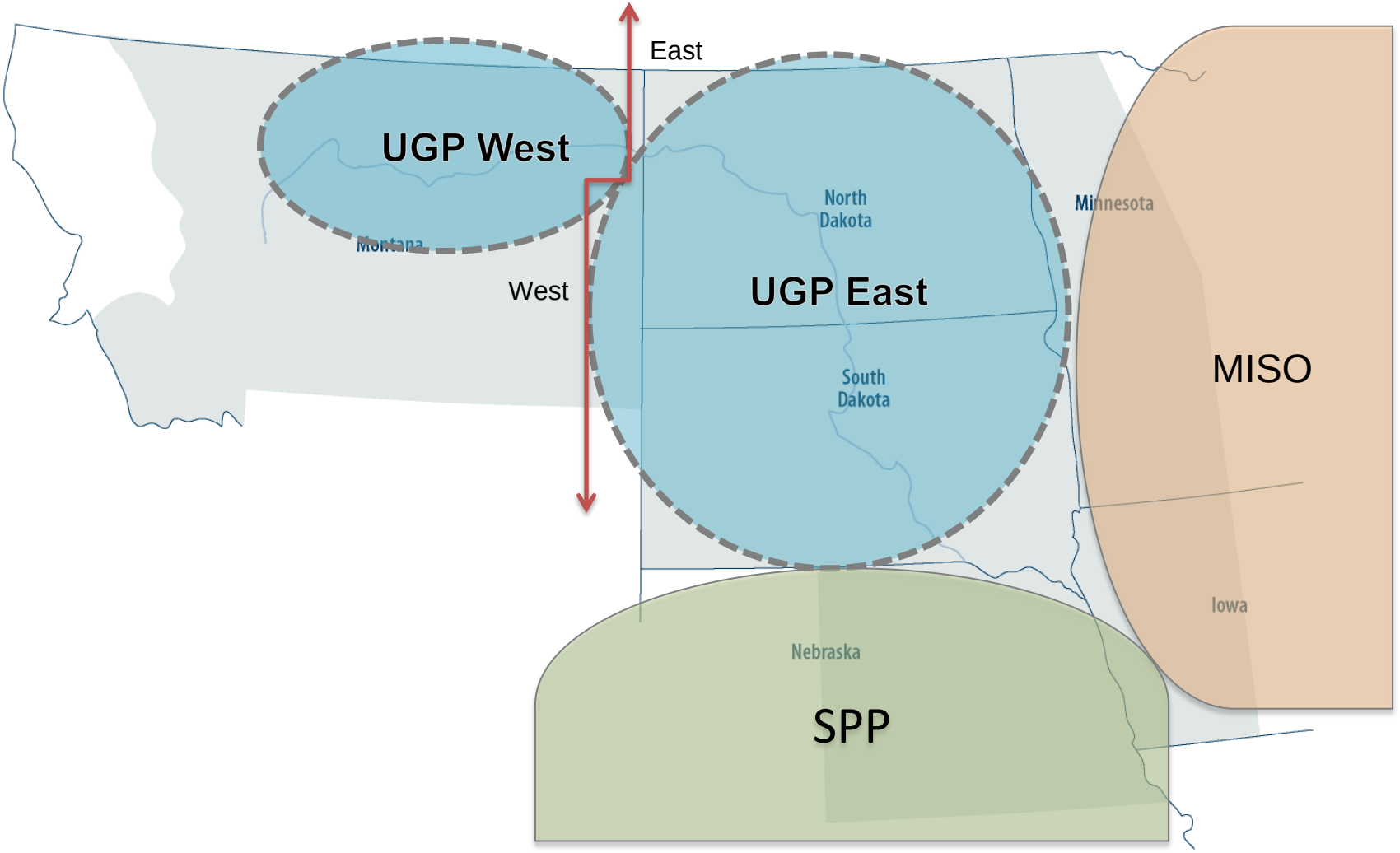
Western AREA POWER ADMINISTRATION

Integrated System & SPP Regions

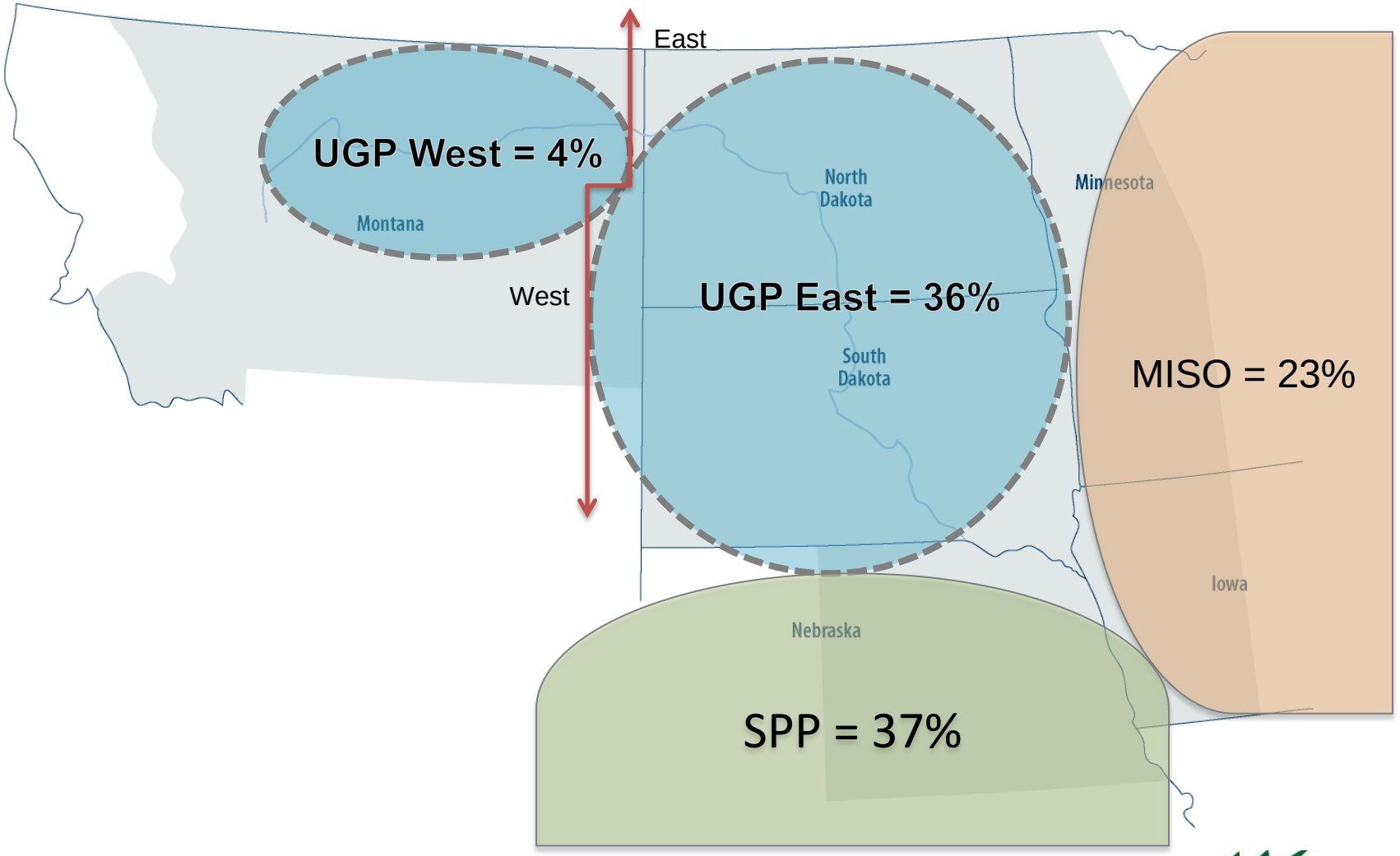


Western
AREA POWER
ADMINISTRATION

Balancing Areas/RTOs

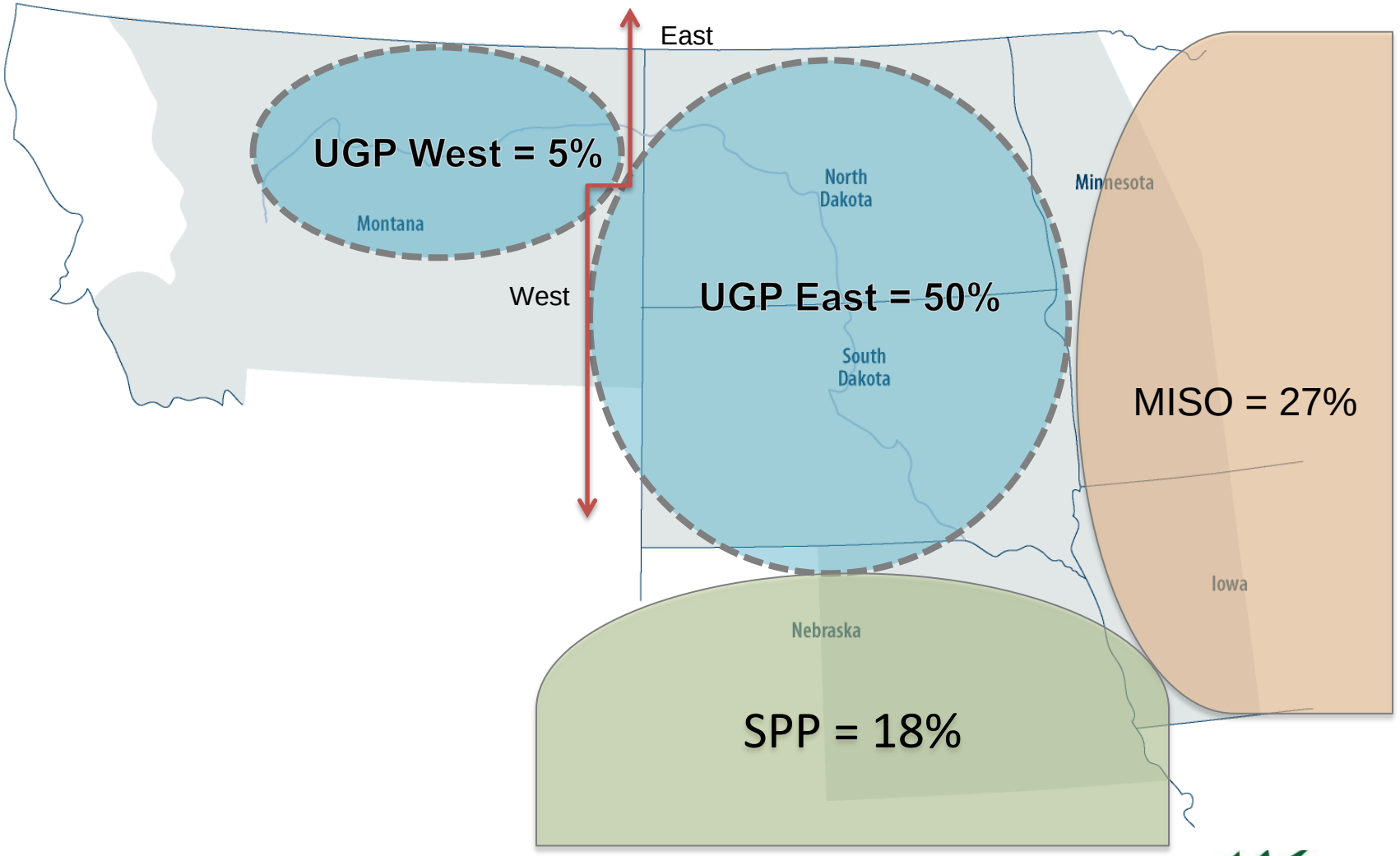


UGP Summer Load*



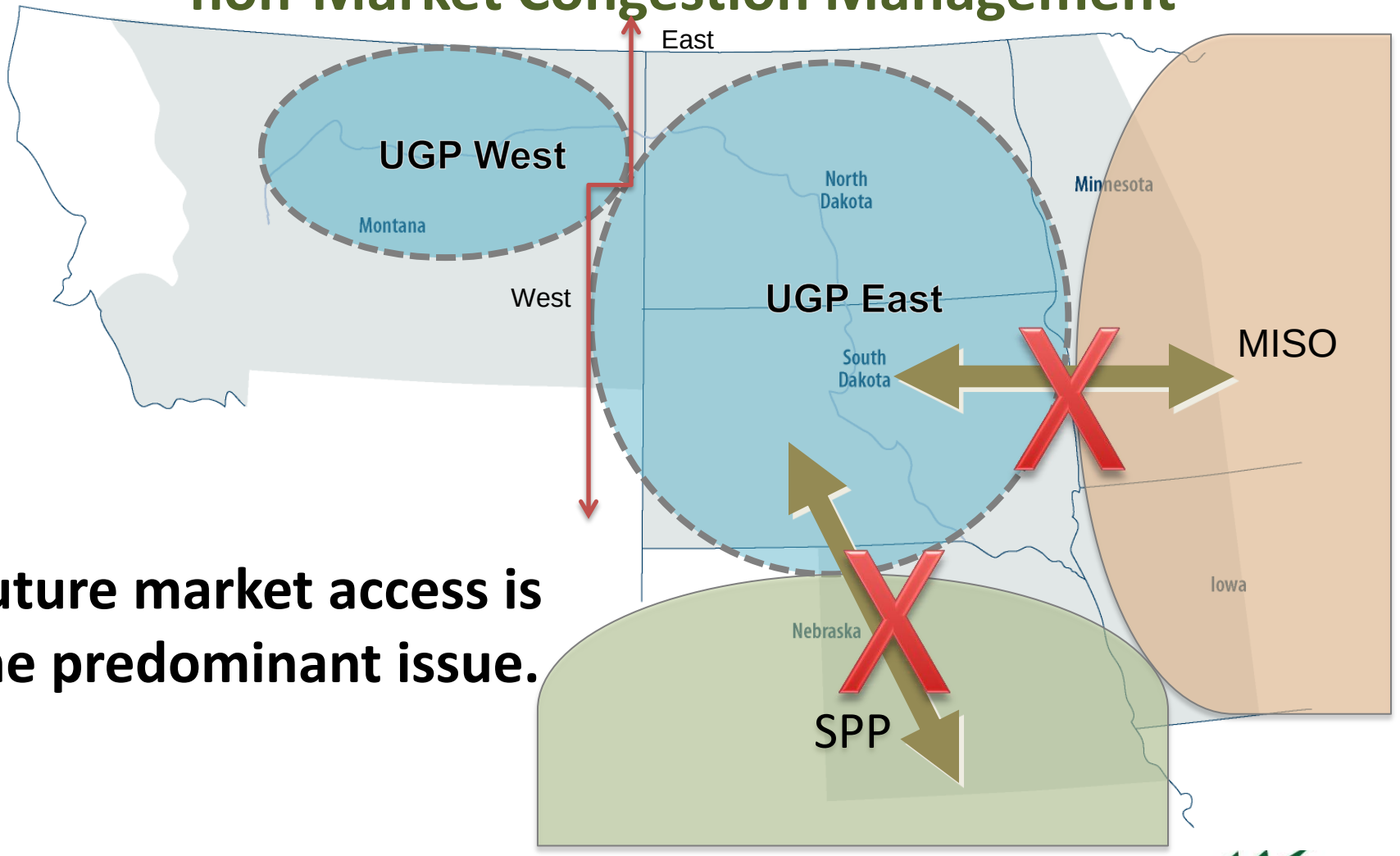
* 2010 summer CROD peak

UGP Winter Load*



* 2010 winter CROD peak

TLR Schedule Cuts for Market to non-Market Congestion Management

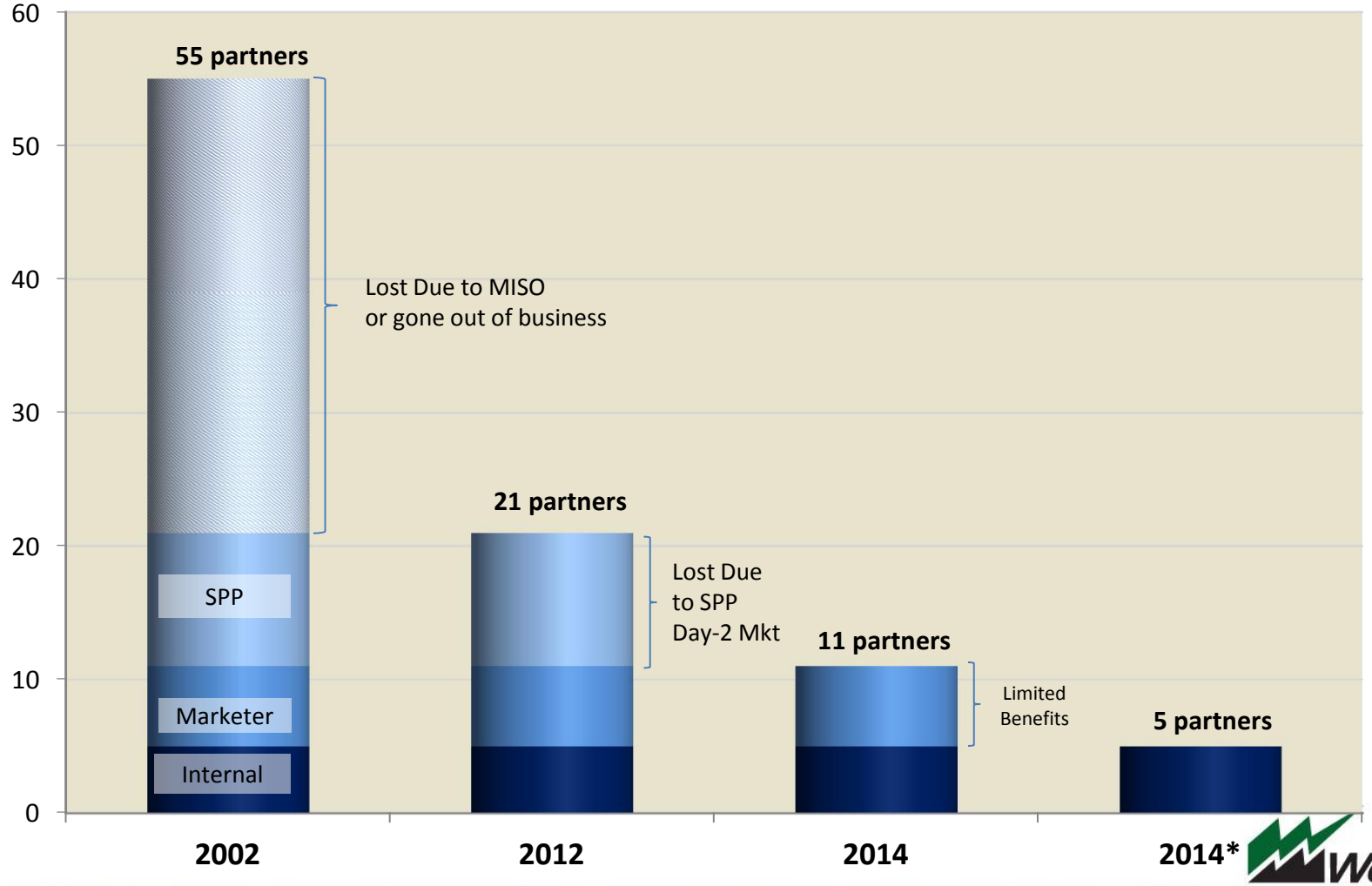


Future market access is the predominant issue.

TLR Summary

Year	Hours Curtailed	Total MWs
2007	>2,000	Not Available
2010	7,299	612,307
2011	7,150	360,999
2012	1,577	49,324

2002-2012 Bilateral Trading Partners*



* - Excludes ~4 entities in the Western Interconnect

RTO's and Federal Power Implications

- Historical and future operational concerns
  - Low & high hydro generation
  - Evolving market situations
  - Congestion and TLRs

- Regardless of the IS RTO decision, future operations for UGPR will have to change
  - Purchased power and surplus sales strategies will have to change

Western AREA POWER ADMINISTRATION

AOS Study Methodology

Integrated System Business Model

1. Trade Benefits (Nodal Analysis)
2. Administrative Costs
3. Transmission Expansion
4. Capacity Benefits
5. IS Transmission Revenue (Costs Shifts)
6. Drive-Outs

Multi-Criteria Decision Analysis

1. Marketing Plan & Rate Stability
2. Agreements

Western AREA POWER ADMINISTRATION

1 Trade Benefits

(Nodal Analysis)

- IS owners engaged The Brattle Group to perform a Nodal Analysis.
- Evaluate the benefits and costs of:
  - Staying Independent
  - Joining MISO
  - Joining SPP
- Looking at near-year of 2013 and out-year of 2020
- Results will be quantified in an “Enhanced Adjusted Production Cost” metric
- Also analyzed several sensitivities

Western AREA POWER ADMINISTRATION

1 Trade Benefits

(Nodal Analysis)

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9

2 Administrative Costs

- Major components included:
  - RTO administrative fees
  - RTO FERC fees
  - Internal cost increases (staff & technology)
  - Savings in IS reliability coordination

2 Administrative Costs

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)

3 Transmission Expansion Costs

- What will be built?
  - IS projects
  - MISO projects
  - SPP projects
- What is the cost allocation method?
  - Who pays?
  - UGP seeking exception from RTO-wide expansion costs linked to our Federal Statutory Exemption (FSE) status for Federal service to load

Western AREA POWER ADMINISTRATION

3 Transmission Expansion Costs

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)
3 **Transmission Expansion** (Includes West 345-kV Loop)	(28.7)	(34.0)	(31.4)	(36.2)	(16.0)	(20.8)

4 Capacity Benefits

- MISO and SPP have different approaches for resource adequacy, operating reserves, and planning reserves.
- No Benefit/cost shown for Western
  - Western assumed no additional water would be available to create more energy under any small changes in additional capacity benefits.

4 Capacity Benefits

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)
3 **Transmission Expansion** (Includes West 345-kV Loop)	(28.7)	(34.0)	(31.4)	(36.2)	(16.0)	(20.8)
4 **Capacity Benefits**	0.0	0.0	0.0	0.0	0.0	0.0

Western AREA POWER ADMINISTRATION

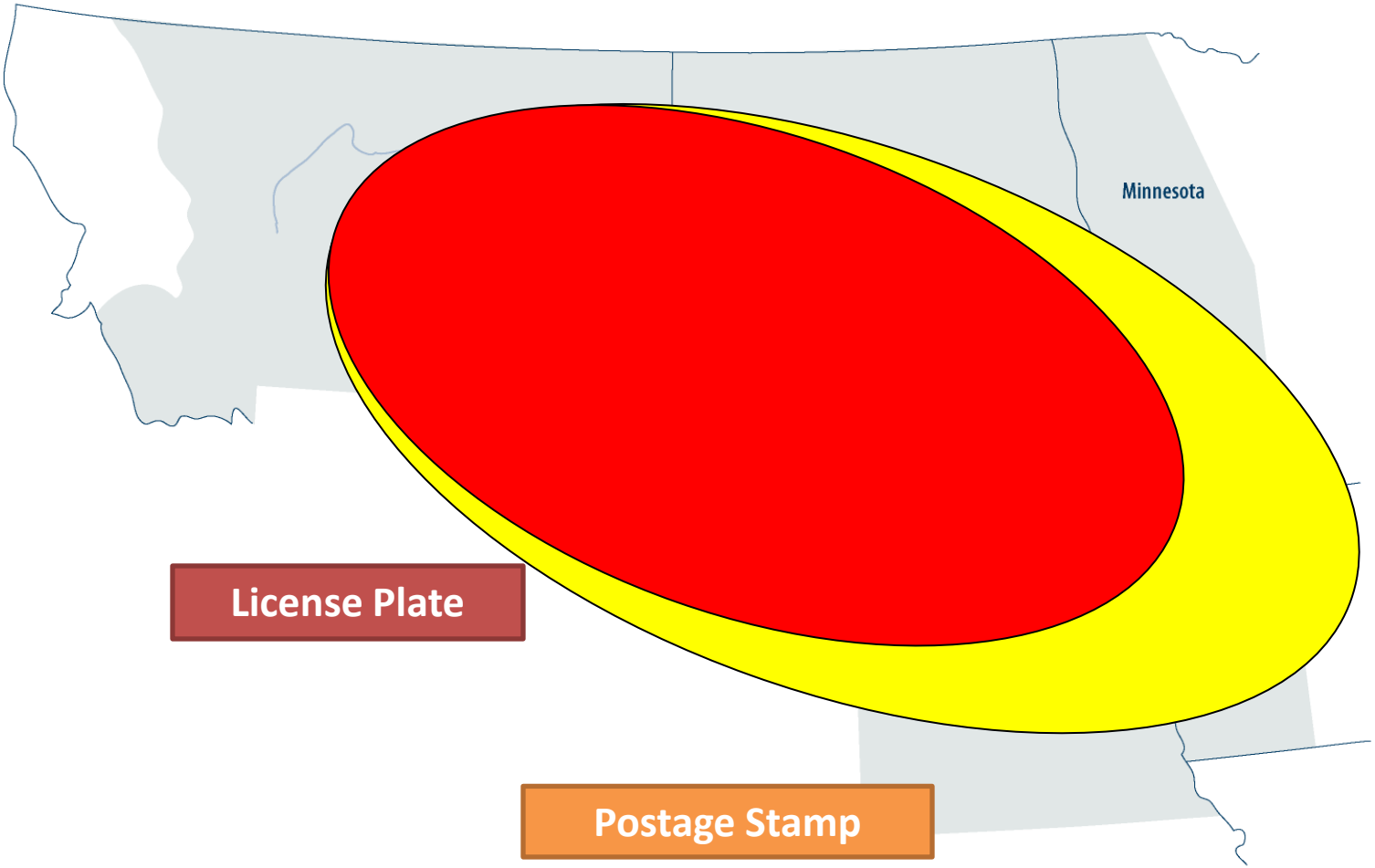
5 IS Transmission Revenue

(Cost Shifts)

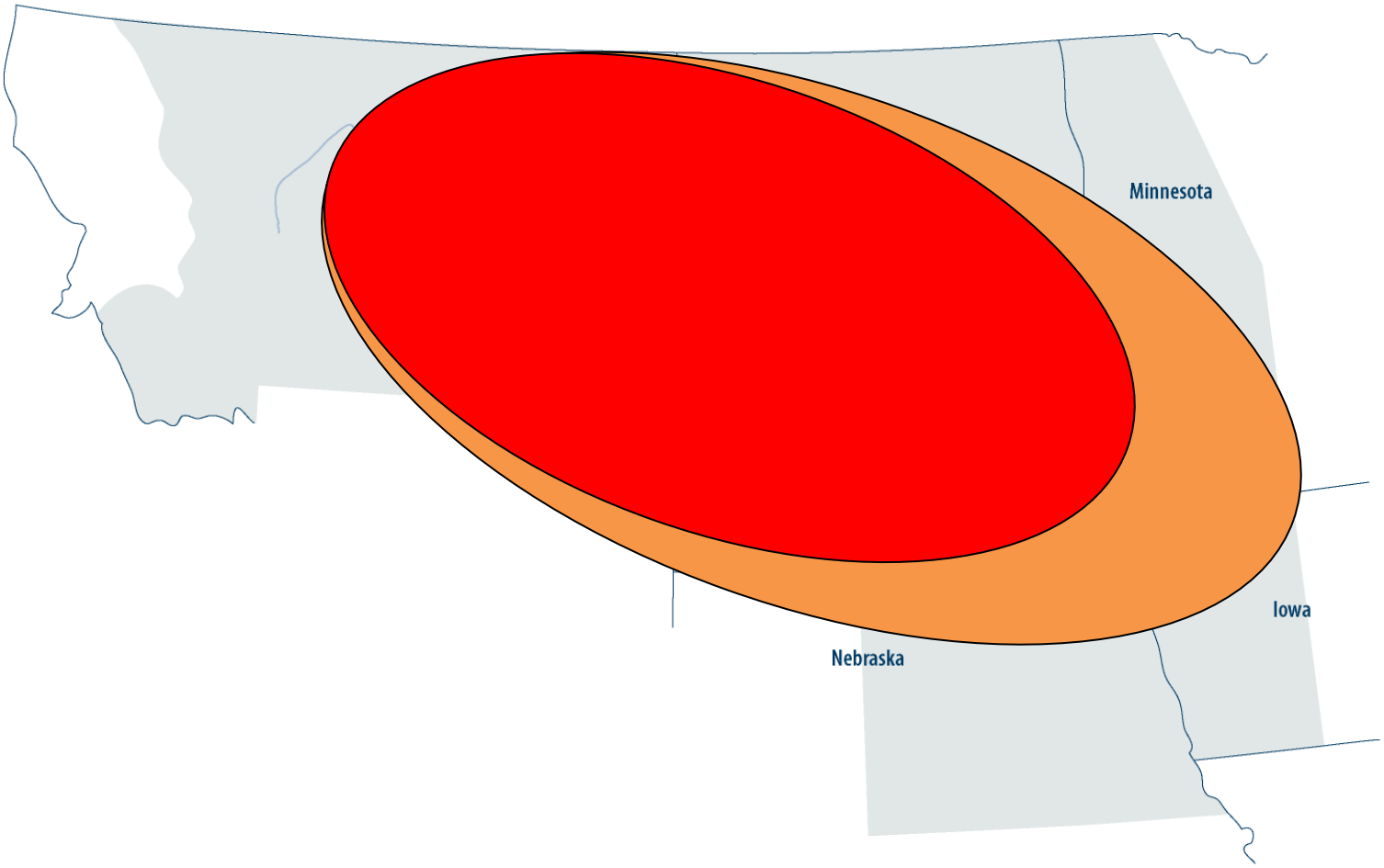
- Fundamental Change in Transmission Pricing with an RTO
- IS utilizes a “Postage Stamp” pricing method.
  - One rate for moving into, thru, and out of the IS footprint
- MISO and SPP utilize a “License Plate” pricing method.
  - Only load in the license plate zone pays for the transmission costs in that zone. Generation sourced in one zone sinking to load in the another zone pays no sourced zone transmission costs.

Western AREA POWER ADMINISTRATION

License Plate Pricing Impact



UGP FSE Service



Western AREA POWER ADMINISTRATION

5 IS Transmission Revenue

(Cost Shifts)

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)
3 **Transmission Expansion** (Includes West 345-kV Loop)	(28.7)	(34.0)	(31.4)	(36.2)	(16.0)	(20.8)
4 **Capacity Benefits**	0.0	0.0	0.0	0.0	0.0	0.0
5 **IS Transmission Revenue** (Cost Shifts)	(55.6)	(51.6)	(61.5)	(56.0)	(53.4)	(49.5)

Western AREA POWER ADMINISTRATION

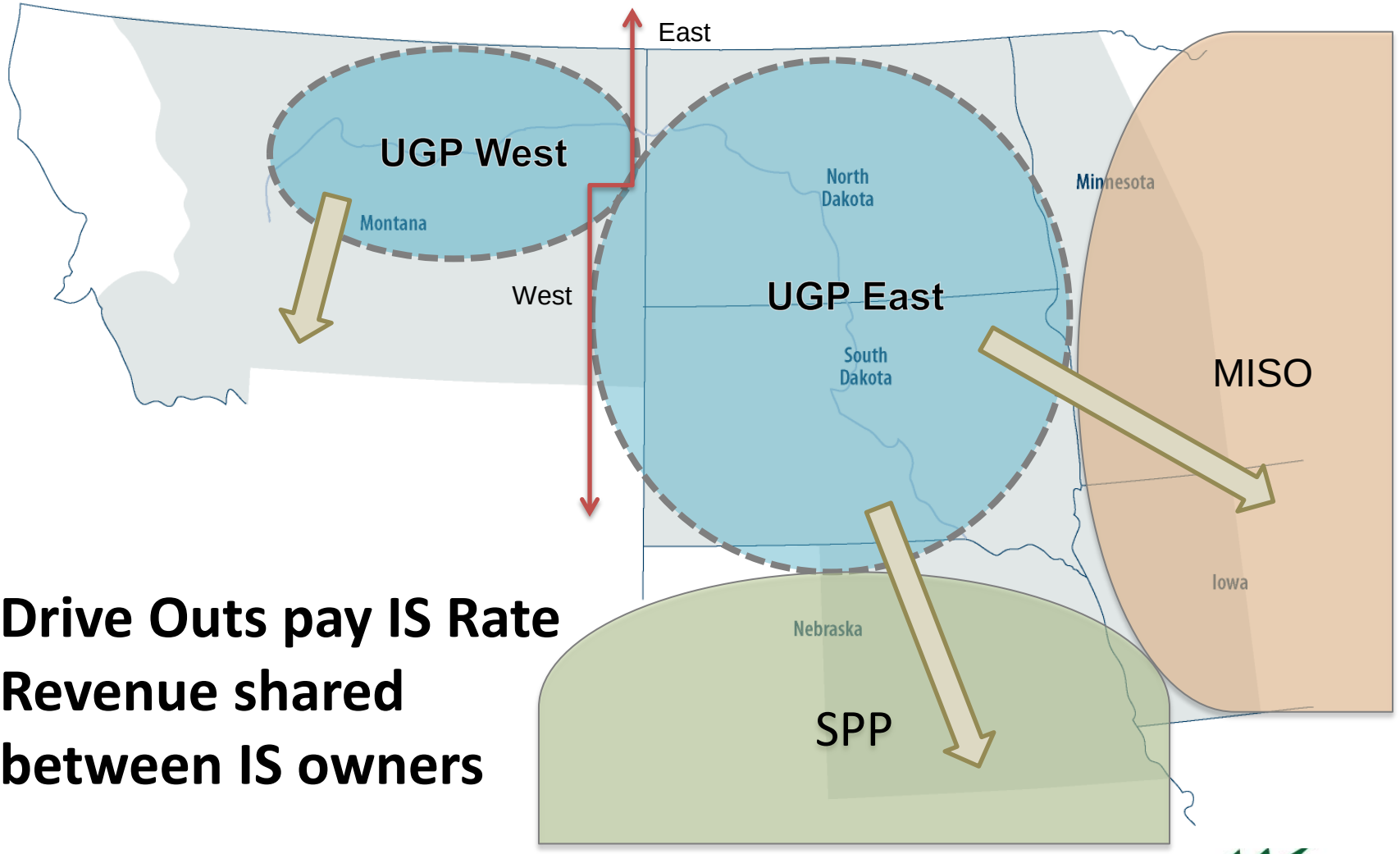
6 Drive-Outs

- IS owners and others have load off of the IS system but take IS service for that load.
  - Effectively a Drive Out charge for generation that sources in or thru the IS but serves load off the IS
  - Revenues are currently shared among the IS owners.
- Both MISO and SPP have Drive Out charges based on the RTO transmission rate.
  - Revenues are shared among all the RTO load.
  - Results in a loss of revenue to the IS parties
- UGP FSE impacts

Western AREA POWER ADMINISTRATION

Drive Out Costs – Independent

Integrated System

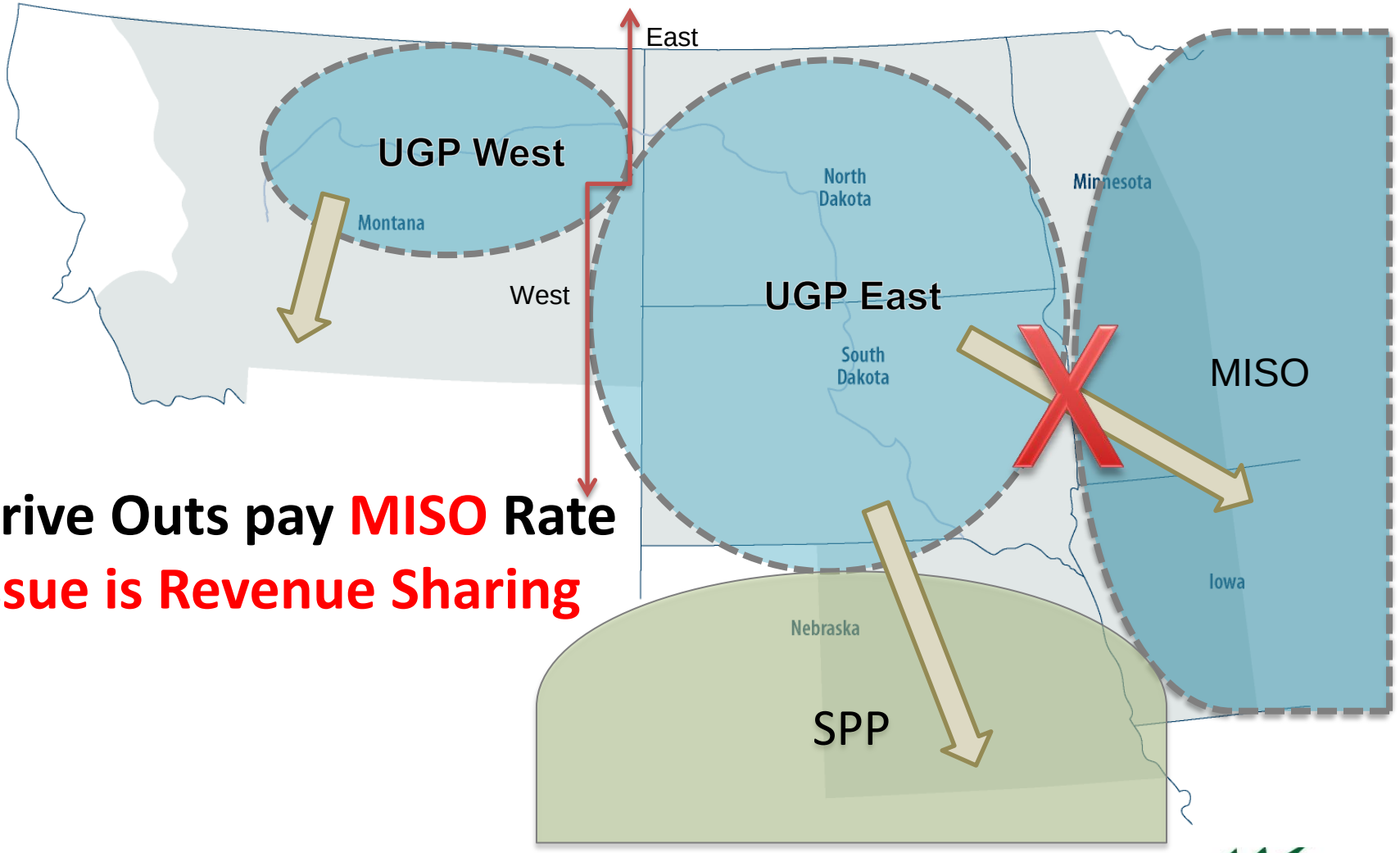


Drive Outs pay IS Rate

Revenue shared between IS owners

Drive Out Costs – Join MISO

MISO/Integrated System



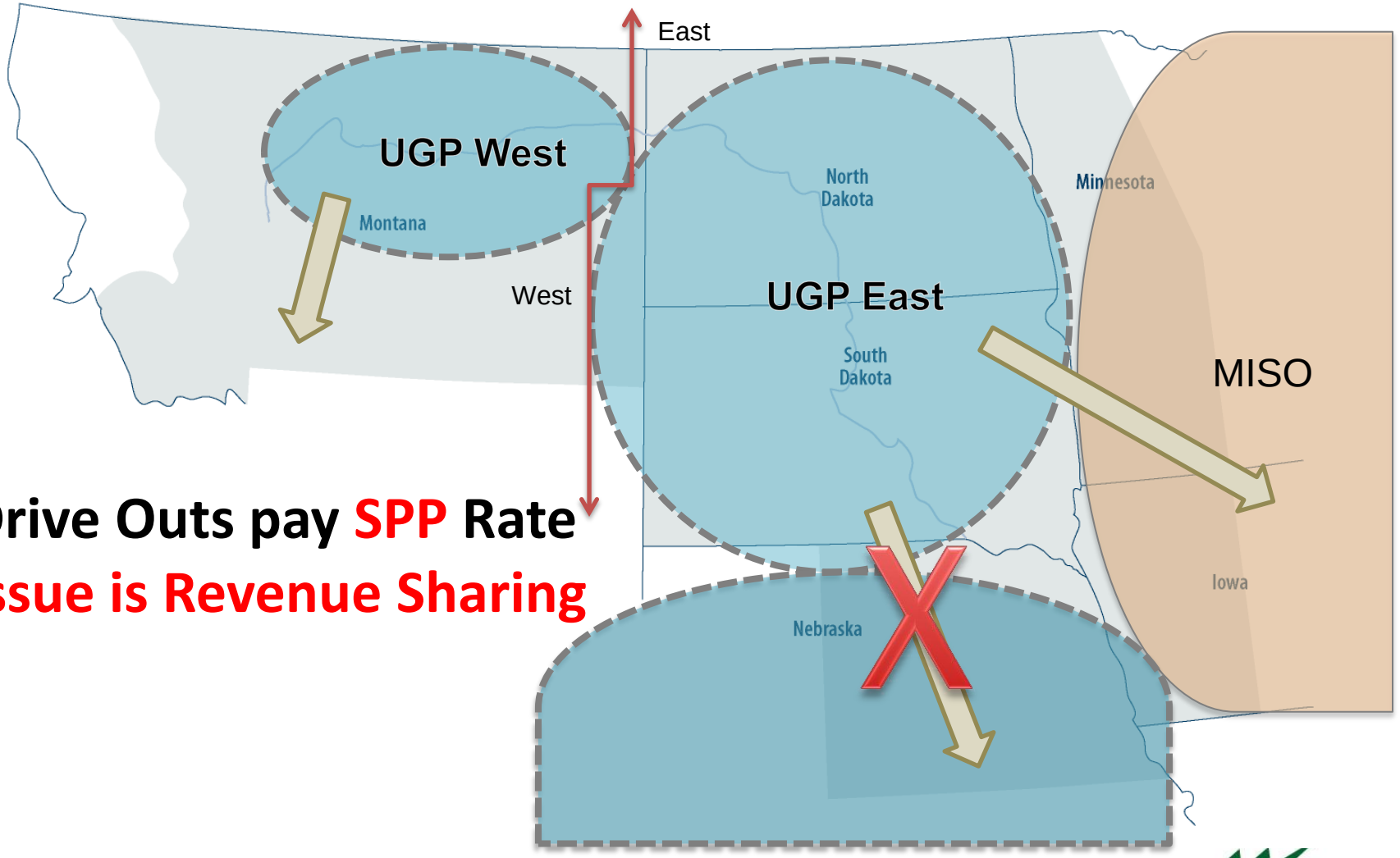
Drive Outs pay MISO Rate

Issue is Revenue Sharing

Western AREA POWER ADMINISTRATION

Drive Out Costs – Join SPP

SPP/Integrated System



Drive Outs pay SPP Rate

Issue is Revenue Sharing

6 Drive Outs

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)
3 **Transmission Expansion** (Includes West 345-kV Loop)	(28.7)	(34.0)	(31.4)	(36.2)	(16.0)	(20.8)
4 **Capacity Benefits**	0.0	0.0	0.0	0.0	0.0	0.0
5 **IS Transmission Revenue** (Cost Shifts)	(55.6)	(51.6)	(61.5)	(56.0)	(53.4)	(49.5)
6 **Drive-Outs**	0.0	0.0	(0.7)	(1.2)	(0.3)	(0.4)

Western AREA POWER ADMINISTRATION

Summary Table of IS Business Model Overall Cost/Benefit Analysis

Western – UGP	Stand Alone - $m		Join MISO - $m		Join SPP - $m	
Cost Benefit Summary	First Yr	Out Yr	First Yr	Out Yr	First Yr	Out Yr
1 **Trade Benefits** (Nodal Analysis)	3.9	23.6	0.6	13.6	4.8	26.9
2 **Administrative Costs**	(3.2)	(3.2)	(4.7)	(4.7)	(7.2)	(7.2)
3 **Transmission Expansion** (Includes West 345-kV Loop)	(28.7)	(34.0)	(31.4)	(36.2)	(16.0)	(20.8)
4 **Capacity Benefits**	0.0	0.0	0.0	0.0	0.0	0.0
5 **IS Transmission Revenue** (Cost Shifts)	(55.6)	(51.6)	(61.5)	(56.0)	(53.4)	(49.5)
6 **Drive-Outs**	0.0	0.0	(0.7)	(1.2)	(0.3)	(0.4)
Base Case Total Benefits (Costs) (Includes West 345-kV Loop)	(83.6)	(65.2)	(97.7)	(84.5)	(72.1)	(51.0)
Base Case - Join Options Relative to Stand Alone (Includes West 345-kV Loop)			**(14.1)**	**(19.3)**	**11.5**	**14.2**

Western AREA POWER ADMINISTRATION

Economic Evaluation

Comparison to Stand Alone ($M)

	Western			
	Join MISO		Join SPP	
	1st Year	Out Year	1st Year	Out Year
1 Trade Benefits (Nodal Analysis)	(3.3)	(10.0)	.9	3.3
2 Administrative Costs	(1.5)	(1.5)	(4.0)	(4.0)
3 Transmission Expansion (1- 345 KV lines in ND)	(2.7)	(2.2)	12.7	13.2
4 Capacity Benefits	0.0	0.0	0.0	0.0
5 IS Transmission Revenue (Cost Shifts)	(5.9)	(4.4)	2.2	2.1
6 Drive Outs	(0.7)	(1.2)	(0.3)	(0.4)
Total Benefit (Cost)	**($14.1)**	**($19.3)**	**$11.5**	**$14.2**

Western Area Power Administration

Multi-Criteria Decision Analysis Summary

Criteria	Weight	Metric	Weight	Optimized Stand Alone	MISO	SPP
1 Marketing Plan & Rate Stability	65%	Access to Bilateral Markets	40%	Extreme	Insignificant	Insignificant
		TLR Susceptibility	30%	Major	Moderate	Minor
		Peaking Contracts	10%	Extreme	Extreme	Insignificant
		Contingency Reserves	20%	Major	Insignificant	Insignificant
2 Agreements	35%	Flexibility	40%	Insignificant	Major	Minor
		Governance	30%	Insignificant	Moderate	Minor
		Seams Agreement(s)	10%	Insignificant	Moderate	Moderate
		Withdrawal	10%	Insignificant	Major	Moderate
		East - West	10%	Insignificant	Minor	Minor
RISK SCORE (Lower score is less risk)				62	42.2	22.3

Western AREA POWER ADMINISTRATION

Section 1232 of EPAct 2005

- May enter into contract placing **all or part** of a Federal utility's transmission system under an RTO

Contract shall include:

  - Performance standards for operations and use that ensure:
    - Cost recovery for facilities under the RTO
    - Consistency with (1) existing contracts, (2) third party financing arrangements, and (3) **statutes**

Section 1232 of EPAct 2005 (cont'd)

Contract shall also include:

- Monitoring and oversight by the Federal utility
- Right of the Federal utility to withdraw from the Agreement

Does not confer FERC jurisdiction over:

1. Federal generation assets
2. Capacity
3. Energy
4. power sales activities

Western AREA POWER ADMINISTRATION

Recommendation

- Studies have shown monetary separations between the options studied with the Join SPP option having more benefits. Multi-Criteria Decision Analysis showed a lower qualitative risk score for the Join SPP option.

- Western concluded that the potential benefits of the Join SPP option are significant enough for Western-UGP to solicit feedback from customers and other stakeholders regarding its recommendation to pursue formal negotiations with SPP regarding membership.
  - Western has appreciated SPP's governance model which provides a collaborative approach to addressing Western's and the IS owner's concerns.

Western AREA POWER ADMINISTRATION

Current Status

- *Federal Register* Notice (FRN) published November 1, 2013 and is the start of the public comment period

- November 19-21st, 2013 – Public meetings

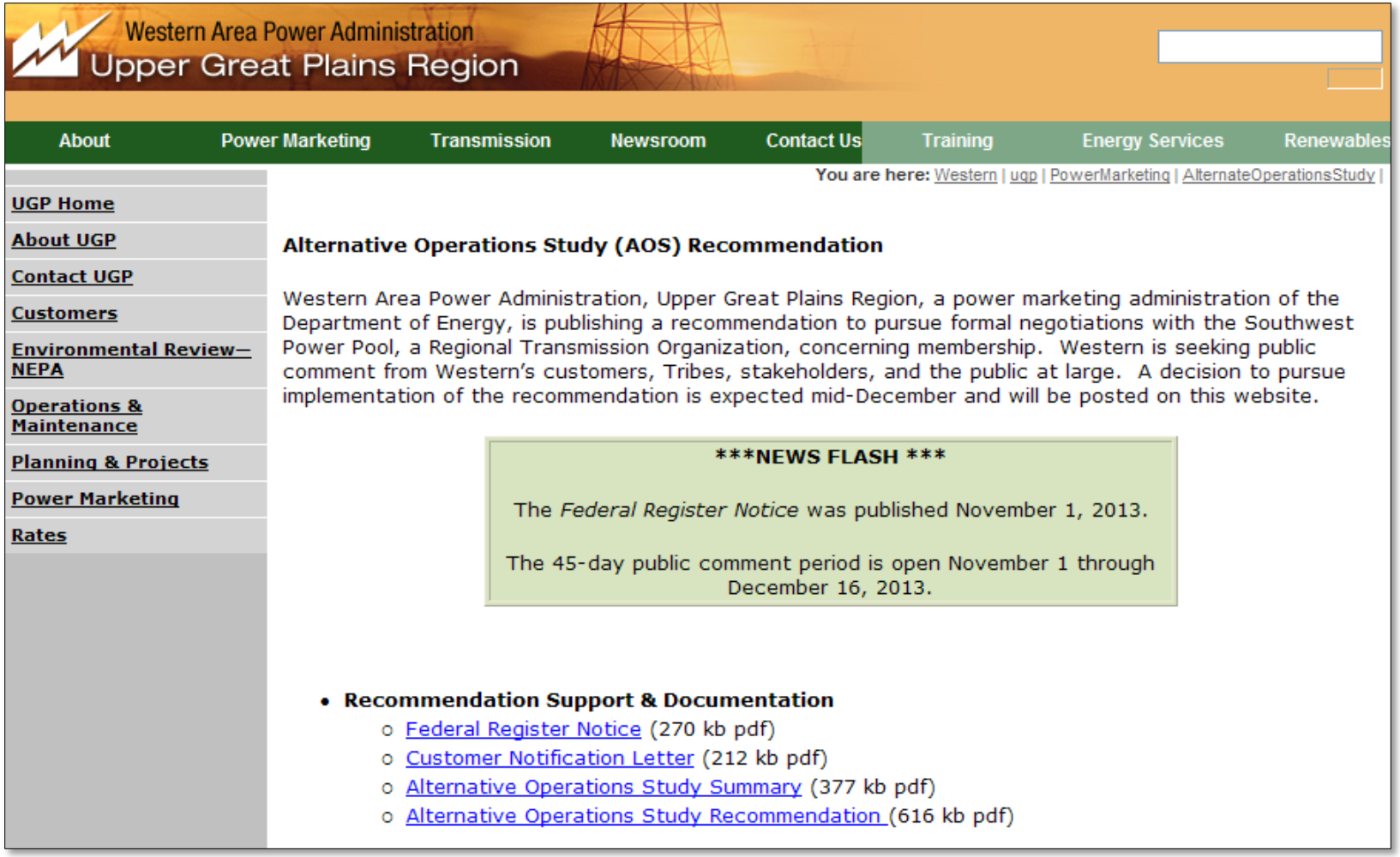
- December 16, 2013 – Public Process concludes

Next Steps

- December 2013/January 2014
  - Review customer comments
  - Decision whether or not to pursue RTO membership
  - Notify customers and stakeholders of decision
- January – April 2014 – Finalize membership/participation agreements
- April 2014 – Sept 2015 – Complete operational preparations to participate as a full member of the RTO
  - Anticipate SPP tariff changes & filing(s) at FERC

Western AREA POWER ADMINISTRATION

AOS Study Website



http://www.wapa.gov/ugp/PowerMarketing/AlternateOperationsStudy/AOS.htm

Questions